

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of image compression, comprising:
tracking a pool of pixel predictors, each pixel predictor having a value;
selecting a subset of pixel predictors from the pool, the subset including a number of predictors that is associated with a number of bits used to represent a pixel;
updating the value of only those pixel predictors of the subset with each pixel processed; and
rebalancing the pixel predictor subset to locally adapt to image conditions.
2. (Previously Presented) The method of claim 1, further comprising encoding verbatim a pixel being processed as an unmatched pixel value if no match is found between the pixel predictor subset and the pixel being processed.
3. (Original) The method of claim 1, wherein the pool of pixel predictors are tracked in two dimensions.
4. (Previously Presented) The method of claim 3, wherein the pool of pixel predictors include pixel locations, including the location of the last unmatched pixel.
5. (Original) The method of claim 4, wherein the pixel locations include a NE, a NEE, a NW, a N, a NWW, a W, and a WW pixel location expressed geographically relative to a pixel being processed.

6. (Original) The method of claim 1, wherein the pool of pixel predictors includes a last unmatched pixel, a cache pixel, a black pixel, a white pixel and a most common value pixel.
7. (Original) The method of claim 1, wherein the pool of pixel predictors tracked include continuous tone prediction algorithms.
8. (Original) The method of claim 7, wherein the continuous tone predictions algorithms are selected from the group of LOCO, MED, LINEAR 4, LINEAR 5 and GAP.
9. (Original) The method of claim 1, wherein the method further includes incrementing a hit counter associated with each pixel predictor in the pool of pixel predictors when a match between a pixel predictor and processed pixel is found.
10. (Original) The method of claim 9, wherein the subset of possible pixel predictors is selected based on incremented hit counters.
11. (Original) The method of claim 10, further including using a pixel predictor from the selected subset having a highest incremented hit counter value as the first pixel predictor used for pixel predictions.
12. (Original) The method of claim 11, further including periodically rebalancing the hit counters.
13. (Previously Presented) The method of claim 12, further including rebalancing the selected subset after a set prediction interval, and rebalancing the hit counters when a first pixel predictor value in the subset reaches a specified limit.

14. (Currently Amended) A method of image compression, comprising:
communicating a number of pixel prediction values via a variable length code compression algorithm;
assigning a hit counter to each of a number of pixel predictors, each pixel predictor having one of the pixel prediction values;
tracking matches between pixel predictor values and a number of processed pixels in two dimensions;
incrementing the hit counters based on tracked prediction matches;
encoding verbatim a pixel being processed as an unmatched pixel value if no match is found; and
selecting a number of pixel predictors having the highest hit counters for future pixel predictions, the number including a number of predictors that is associated with a number of bits used to represent a pixel.
15. (Original) The method of claim 14, wherein the method further comprises:
storing the incremented hit counters in a bit packing mechanism; and
storing a number of run counts and replacement counts as variable length code.
16. (Original) The method of claim 15, wherein a single bit is encoded to indicate a run command.
17. (Original) The method of claim 15, wherein a single bit is encoded to indicate a literal command.
18. (Original) The method of claim 15, wherein each pixel predictor includes a pixel predictor location that is unary coded.

19. (Original) The method of claim 15, wherein each run count is encoded as variable length Gamma Golomb (3) code.
20. (Original) The method of claim 15, wherein each replacement count is encoded as variable length Gamma Golomb (3) code.
21. (Original) The method of claim 14, wherein the method further includes encoding a last unmatched pixel prediction verbatim.
22. (Currently Amended) A method of image compression, comprising:
 - assigning a hit counter to each of a number of pixel predictor values;
 - tracking matches between pixel predictor values and processed pixels in two dimensions;
 - updating one pixel predictor value to the last unmatched pixel value;
 - incrementing the hit counters based on tracked prediction matches; [[and]]
 - selecting a number of pixel predictors having the highest hit counters for future pixel predictions, the number including a number of predictors that is associated with a number of bits used to represent a pixel; and
 - rebalancing the hit counters to locally adapt to image conditions.
23. (Original) The method of claim 22, wherein the method further includes communicating a number of pixel prediction values via a variable length code compression algorithm.
24. (Original) The method of claim 22, wherein the method further includes communicating a number of pixel prediction values via a fixed-bit code compression algorithm.
25. (Original) The method of claim 22, further comprising:

- specifying a number of bit limits for encoding an indicator of a run command;
- encoding a literal command;
- encoding a prediction of a next pixel;
- encoding a seedrow count; and
- encoding a replacement count.

26. (Currently Amended) A computer readable medium having instructions for causing a device to perform a method of image compression, comprising:
- assigning a hit counter to each of a number of pixel predictor values;
 - tracking matches between pixel predictor values and processed pixels in two dimensions;
 - updating one pixel predictor value to the last unmatched pixel value;
 - incrementing the hit counters based on tracked prediction matches; [[and]]
 - selecting a number of pixel predictors having the highest hit counters for future pixel predictions, the number including a number of predictors that is associated with a number of bits used to represent a pixel; and
 - rebalancing the hit counters to locally adapt to image conditions.

27. (Original) The computer readable medium of claim 26, wherein the method further includes communicating a number of pixel prediction values via a variable length code compression algorithm.

28. (Original) The computer readable medium of claim 26, wherein the method further includes communicating a number of pixel prediction values via a fixed-bit code compression algorithm.

29. (Original) The computer readable medium of claim 26, the method further comprising:
- specifying a number of bit limits for encoding an indicator of a run command;

- encoding a literal command;
- encoding a prediction of a next pixel;
- encoding a seedrow count; and
- encoding a replacement count.

30. (Currently Amended) An imaging forming system, comprising:
- a processor;
 - a memory;
 - a media marking mechanism;
 - interface electronics coupling the processor, the memory, and the media marking mechanism; and
 - a set of computer executable instructions stored on the memory and executed by the processor to:
 - track a pool of pixel predictors, each pixel predictor having a value,
 - select a subset of pixel predictors from the pool, the subset including a number of predictors that is associated with a number of bits used to represent a pixel,
 - update the value of only those pixel predictors of the subset with each pixel processed, and
 - rebalance the pixel predictor subset to locally adapt to image conditions.

31. (Previously Presented) The system of claim 30, wherein the set of computer executable instructions are executed by the processor to encode an unmatched pixel value verbatim and update one pixel predictor value to the unmatched pixel value.

32. (Original) The system of claim 30, wherein the means for receiving the image data includes an I/O connection to send and receive image data.

33. (Original) The system of claim 30, wherein the means for image file compression/decompression includes a set of computer executable instructions for two-dimensional compression/decompression with dynamic pixel predictor rebalancing.

34. (Currently Amended) An image compression device, comprising:
a processor;
a memory operably coupled to the processor;
a compression module coupled to the processor and the memory;
an I/O port to send and receive data coupled to the processor and the memory;
and
logic on the device to:
 track a pool of pixel predictors, each pixel predictor having a value,
 select a subset of pixel predictors from the pool, the subset including a number of predictors that is associated with a number of bits used to represent a pixel,
 update the value of only those pixel predictors of the subset with each pixel processed, and
 rebalance the pixel predictor subset to locally adapt to image conditions.

35. (Original) The device of claim 34, wherein the device includes a number of hit counters, each associated with a different pixel predictor, the hit counters operable to be incremented when a match between a pixel predictor and processed pixel is found.

36. (Original) The device of claim 35, wherein at least one hit counter can be periodically reset.

37. (Original) The device of claim 36, wherein each hit counter has a total and wherein the total can be reset by dividing the total by a power of two.

38. (Original) The device of claim 34, wherein the number of pixel predictors are selected from the group including a number of set of pixel values and a number of compression algorithms.